ProofMate (ProofReady) Plugin for Epson Variable Size Droplet (VSD) Printers

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ProofReady Plugin for Epson VSD printers

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Chapter 1–Getting Started

This manual describes the Epson Stylus Pro VSD printer plugin for the Harlequin RIP and is suitable for the following Epson printers:

- Stylus Pro 4000
- Stylus Pro 5500
- Stylus Pro 7600
- Stylus Pro 9600
- Stylus Pro 10000
- Stylus Pro 10600
- Stylus Photo 2200 and 2100

The plugin adds new output devices to the Harlequin RIP for use in your page setups. Each device provides support for a variety of inking regimes and Harlequin ProofReady™ profiles, which provide expert, “out the box” color management for printing proofs.

1.1 Plugin features

These Epson printers are capable of delivering prints with amazing color fidelity, gloss-level, and scratch resistance. The plugin has been engineered to support the full range of inks maintained by the printer, including 6 or 7-color inks (depending on printer type), and two black inks.

Briefly, the plugin has the following features:

- A selection of Harlequin RIP plugin devices for outputting to the Epson Stylus Pro 4000 VSD printer series.
- A selection of ProofReady color management profiles, each designed to produce outstanding results on a range of commonly used papers and inks.
- Support for HEDS1 and HEDS2, Global Graphics’ advanced screening technology.

1.2 System requirements

The following components are needed to install and run the Epson plugin.

1.2.1 Windows XP and Windows Vista

These are the platform requirements for a Windows operating system.

- Intel® Pentium® 4 1 GHz (or equivalent).
- Microsoft® Windows 2000 (SP 2), Windows XP Professional or Home Edition. and Windows Vista.
- 256 MB of RAM (512 MB recommended for variable sized dot devices).

1.2.2 Apple Mac

These are the platform requirements for a Mac OS X operating system.

- Intel Mac and PowerPC® G4.
- Mac OS® X v.10.4.x.
- 256 MB of RAM with virtual memory turned on (128 MB recommended).

1.2.3 Linux

These are the platform requirements for a Linux operating system.

- Intel Pentium 4 1 GHz (or equivalent).
- Red Hat Enterprise Linux ES v4.0 or v5.0.

Note: For each of these platforms, configure the Harlequin RIP with at least 4 MB RAM for the printer buffer and 24 MB RAM for the system. See "Allocating additional memory to the RIP" on page 9 for details of how to do this.

1.2.4 Memory and disk space requirements

The following *minimum* system requirements are needed to run the Epson plugin successfully:

- 128 MB RAM.
- 1 GB disk space (additional space may be required for large format or high-resolution output).
- For large format or high-resolution jobs, in the Configure RIP dialog box, increase the Printer buffer setting to at least `20000 KB` and Disk space left for system to `20 MB`.

For a precise method of determining the amount of memory required by the RIP when processing jobs for the Epson, see Appendix 8, “Memory Requirements”.

1.2.5 Supported RIPs

The Epson plugin has been approved for use with the following RIPs:

- Harlequin RIP v7.2 Genesis Release.
- Harlequin RIP v8.0 Release.

1.2.6 Optional items

Depending on how you want to process your print jobs, the following optional items may also be needed:

- Harlequin ColorPro™—required for Harlequin RIP ProofReady™ color management technology.
- HEDS, HEDS1 and/or HEDS2—required for Harlequin Error Diffusion Screening (HEDS) technology.
- HDS or HDS Light screens—required for Harlequin Dispersed Screening (HDS) technology.

Your Harlequin RIP supplier will be able to provide you with necessary serial numbers to enable these features in the RIP.

1.3 Installing plugins with the RIP

This section describes how to add plugins, either at the same time as the RIP is installed, or in a subsequent installation.

The InstallAnywhere installer allows you to easily install the Harlequin RIP products contained on the CD. Instructions for installation can also be found in the **install.htm** file in the directory above the **Install_xx** file (where xx is the customer name abbreviation). Detailed instructions for installing the Harlequin RIP on Windows, Mac and Unix platforms can be found in the *Harlequin RIP Installation Guide*. To ensure you have the necessary privileges for installing the Harlequin RIP, you may have to log on as *System Administrator*.

1. Insert the Harlequin RIP CD-ROM and open it. Double-click the **Install_xx** file to load the InstallAnywhere package. See the *Installing the Harlequin RIP for Linux* manual for details of the install processs on a Linux platform.

1. Follow the InstallAnywhere screen instructions. Select the Next button to move onto the next screen and the Previous button to return to a previous screen. Every step of the install procedure is shown in the left hand window.

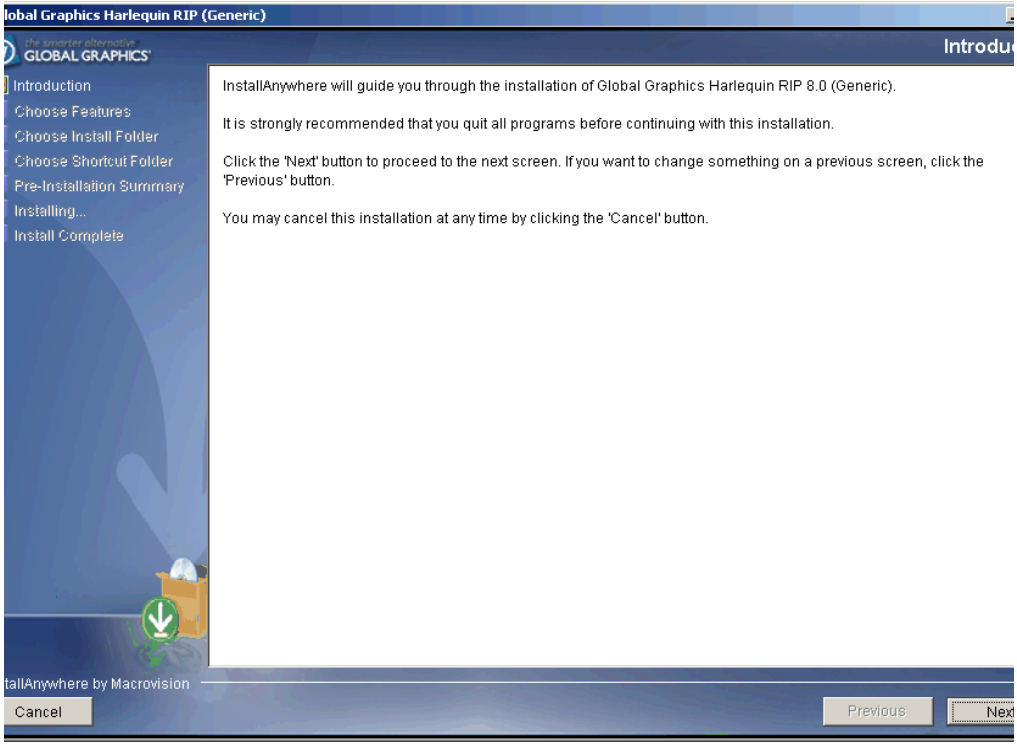
lobal Graphics Harlequin RIP (Generic)
the smarter alternative
GLOBAL GRAPHICS
Introdu
Introduction
Choose Features
Choose Install Folder
Choose Shortcut Folder
Pre-Installation Summary
Installing...
Install Complete
InstallAnywhere will guide you through the installation of Global Graphics Harlequin RIP 8.0 (Generic).
It is strongly recommended that you quit all programs before continuing with this installation.
Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.
You may cancel this installation at any time by clicking the 'Cancel' button.
tallAnywhere by Macrovision
Cancel
Previous
Next

Figure 1.1 InstallAnywhere dialog

2. The “Choose Features” screen shows all the products available in the package. When you select a product, a short description of its function appears. Those products not checked in the list will not be installed.

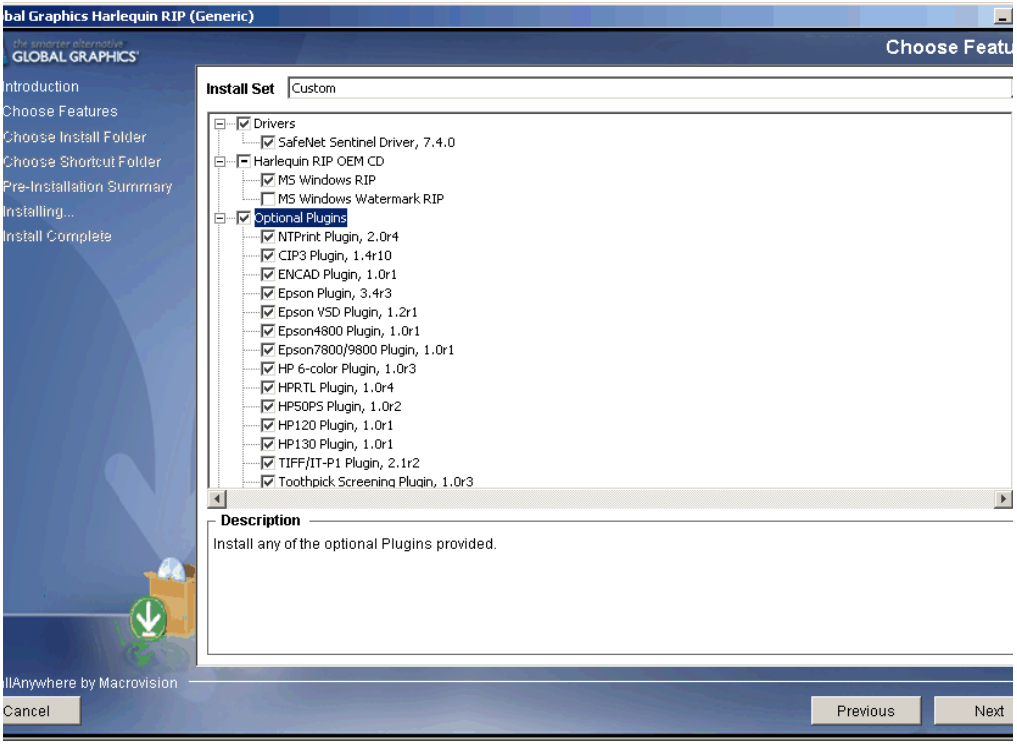

Figure 1.2 InstallAnywhere Choose Features dialog

Note: Use the scroll bar at the right side of the display to view more selection options.

3. Use the “Choose Install Folder” screen to select an installation folder. If you wish you can choose a different install folder to the default. Click Choose... and navigate to the required folder. If at any time you wish to restore the default location click Restore Default Folder. Click Next to move onto the next stage and install in the desired location.

4. On Windows platforms the “Choose Shortcut Folder” screen allows you to create any icons or Start menu options for the Harlequin RIP. When this is done click Next.

5. The “Pre-installation Summary” screen allows you to examine your installation choices. If required, use the Previous button to return to earlier screens and modify your selections, otherwise click Install to proceed with the installation.

6. A warning dialog may be displayed at his point. Any products on your system that use the Harlequin License Server should be stopped before continuing with the installation. Click Continue to move ahead with the installation. Previous versions of the HLS will now be removed.

7. The “Install Complete” screen indicates that the installer has finished. If any errors have occurred a message will be displayed. Click Done to exit from the installer. You can view the details of the errors by opening the **xx_InstallLog.xml** file which is located in the installation folder.

1.4 Installing plugins separately

1. Follow the InstallAnywhere screen instructions as before. Select the Next button to move onto the next screen and the Previous button to return to a previous screen.

2. The “Choose Features” screen shows all the products available in the package. When you select a product, a short description of its function appears. Select *only* the plugins that you wish to install. Those products not checked in the list will not be installed.

3. On Windows systems in the “Choose Install Folder” screen select the same installation folder as the previously installed RIP. Click Next to move onto the next stage.

4. At the “Pre-installation Summary” screen click Install to proceed with the installation.

5. The installation will now continue. This may take some minutes.

6. The “Install Complete” screen indicates that the installer has finished. If any errors have occurred a message will be displayed. Click Done to exit from the installer. You can view the details of the errors by opening the **xx_InstallLog.xml** file which is located in the installation folder.

1.5 Enabling the printer plugin

The Epson plugin needs to be enabled in the Harlequin RIP before it can be used, along with related plugins for screening and color management, unless you have already preset a key, in which case the plugin will already be enabled.

1. Start the Harlequin RIP. Choose Harlequin RIP > Configure RIP (or CTRL+R) to open the Configure RIP dialog. Click Extras to open the Configure RIP Extras dialog (Figure 1.3).

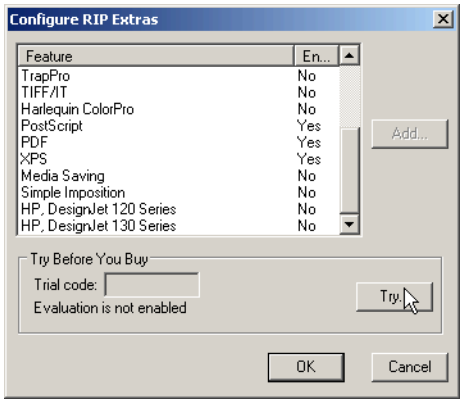

Figure 1.3 The Configure RIP Extras dialog

2. To enable a plugin from the list available, you must enter a password as supplied by your Harlequin RIP supplier.

3. Select the plugin that you wish to add and click Add... the Enable Feature dialog box is displayed. Enter the supplied password in the dialog box and click OK.

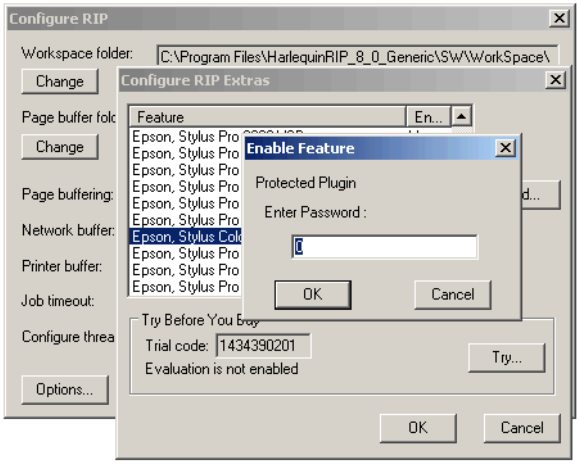

Figure 1.4 Enabling RIP features

4. Click OK the close the Configure RIP Extras dialog, and then click OK to close the Configure RIP dialog.

The features will now be enabled in the RIP and may be used in your page setups to process jobs, as described in Chapter 4, “Creating Page Setups”.

1.5.1 Screening plugin compatibility

The Epson VSD printer plugin is compatible with the following plugins:

- HEDS1, HEDS2: version 2.1(for 7.x RIPs)
- HEDS: v3 (for v8.0 and later RIPs)

1.5.2 Installing screening plugins

HEDS screenin plugins must be installed and enabled in the Harlequin RIP before they can be used.

Depending on which device you choose to use the plugin uses a default screening method, as follows:

- 1-bit single dot size devices (SD)—HDS Super Fine screening
- 2-bit variable dot size devices (VSD)—HEDS2 screening

Other screening methods are possible when using SD devices, for example, HDS Fine/Medium/Coarse/Super Coarse orHEDS1.

To use a different screen requires you to configure the separation style sheet.

To use any of these screening methods the relevant screening plugin(s) must be installed and enabled in the Harlequin RIP. Failure to do this will cause the RIP to use Euclidean screening instead in the case of 1-bit devices, or, in the case of 2-bit devices, may cause the RIP to freeze or unexpectedly quit. The following versions of the screening plugins are compatible with the ProofReady plugin:

- HEDS1 and HEDS2: version 2.1.1 or later (for 7.x RIPs)
- HEDS v3 (for Harlequin v8.0 RIP and later)

HDS screens are automatically installed with the RIP and just need to be enabled, however HEDS1 and HEDS2 must be installed and enabled separately, as described in the next section.

In addition to the screening plugins, the screening plugin requires a color management option, such as Harlequin ColorPro™ to be enabled.

1.6 Location of plugin folders

Table 1 shows the correct Harlequin RIP installation folders for the Epson VSD printer plugin and supplied screening plugins. This information is provided for reference only. Unless instructed by Technical Support, you should not move these folders or delete information contained in them or the plugins may cease to function correctly.

Source folder	Description	Destination folder
\epsonvsd\	Epson VSD printer plugin	…\<*RIP-folder*>\SW\Devices\
\HEDS1\	HEDS1 screening	…\<*RIP-folder*>\SW\Screenin
\HEDS1\ExtraStart\HEDS1Init\		…\<*RIP-folder*>\SW\Sys\ExtraStart
\HEDS2\	HEDS2 screening	…\<*RIP-folder*>\SW\Screenin
\HEDS2\ExtraStart\HEDS2Init\		…\<*RIP-folder*>\SW\Sys\ExtraStart
\HEDS\	HEDS1+HEDS2 screening	…\<*RIP-folder*>\SW\Extensions \Core Module\heds

Table 1 Default installation folders for supplied plugins

1.7 Allocating additional memory to the RIP

To process jobs with the Epson plugin you may need to allocate additional memory to the RIP printer buffer. The precise amount of memory required depends upon the nature of the job to be processed. Large, high quality jobs will require more memory than small, low quality jobs.

The basic memory requirements for the RIP is to provide sufficient memory to prevent the operating system from page buffering, which has the undesired effect of slowing the RIP down. At the other end of the scale, the more memory you can make available to the RIP the better it will process the job. Figures of 500 MB and above may be needed to process some large jobs, especially if options such as in-RIP trapping and screening are being used. In general, the more memory the RIP has available to use, the better it performs.

To set the printer buffer memory allocation, open the Configure RIP dialog (Figure 1.5) and enter a value into the Printer Buffer box. Suggested settings are:

- Low/medium resolution prints on standard size pages: 20000 KB
- High resolution prints on standard size pages: 40000 KB
- Low/medium resolution prints on large size pages: 40000 KB
- High resolution prints on large size pages: 60000+ KB

Any other RIP memory settings should be configured according to the recommendations given in your Harlequin RIP User Manual, since these vary according to the RIP release you are running.

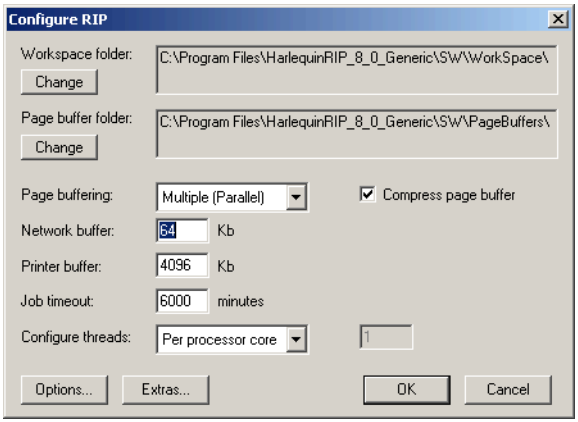

Figure 1.5 Setting the printer buffer size in the RIP

See also, Appendix 8, “Memory Requirements” for more information on the specific memory requirements of the plugin.

1.8 Related documentation

For more details about the printer you are using, see the manufacturer’s documentation supplied with the printer or the relevant product support section of the manufacturer’s web site.

For more information on installing the Harlequin RIP, see the *Harlequin RIP Installation Manual*.

For more information about the RIP, see the *RIPMate User Guide*.

For more information about Harlequin ColorPro, see the *Harlequin ColorPro™ User’s Guide*.

Chapter 2–Output Devices

The Epson VSD printer plugin adds several new output devices to the RIP. Select the device you wish to use in your page setup, and the RIP will process jobs for the Epson VSD printer plugin using the correct device settings for ink, media type, and output quality.

2.1 Epson output devices

Table 2.1 lists the Harlequin RIP output devices that are available in the page setup area of the RIP after installing the Epson VSD printer plugin.

Device	Usage
SP2200 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP2200 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP2200 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP2200 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.
SP4000 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP4000 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP4000 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP4000 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.

Table 2.1 Epson VSD devices

Device	Usage
SP7600 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP7600 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP7600 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP7600 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.
SP9600 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP9600 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP9600 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP9600 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.
SP10600 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP10600 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP10600 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP10600 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.
SP5500 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP5500 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP5500 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.

Table 2.1 Epson VSD devices

Device	Usage
SP5500 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.
SP10000 Roll	Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large.
SP10000 Sheet	Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large.
SP10000 VSD Roll	Produces output for roll-fed paper using varying sized ink dots.
SP10000 VSD Sheet	Produces output for sheet-fed paper using varying sized ink dots.

Table 2.1 Epson VSD devices

Each device also has a selection of Harlequin ProofReady profiles for instant color management. See “Calibration and Color Management” on page 25 for a list of ProofReady profiles that are available.

2.2 Setting device options

The devices installed by the Epson VSD printer plugin can be configured to suit your particular job processing requirements. For instance, you can change the media and ink types to suit those installed in your printer, change the output quality to increase throughput or print quality, and add post-processing commands which run after the job has been processed.

The device options are accessed via the *Configure Device* dialog (Figure 2.1), by clicking Configure device in a page setup. Any changes you make to a device remain local to the particular page setup they were made in and do not effect other page setups. This means you can

have multiple page setups for the same output device, each with different device settings to suit your job processing needs.

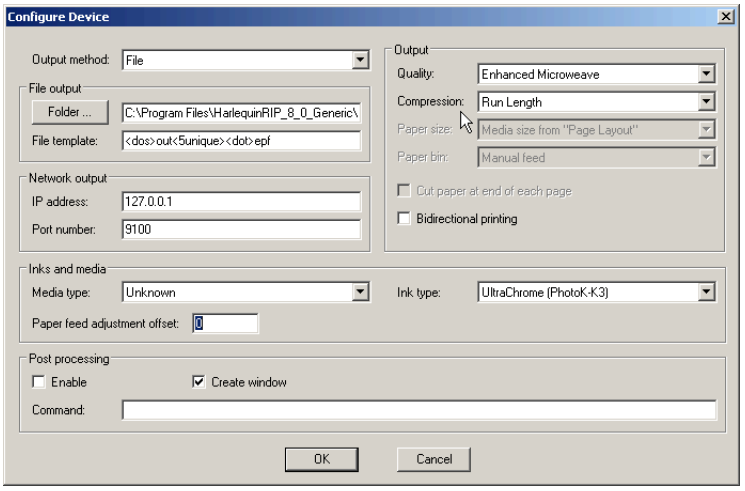

Figure 2.1 The Configure Device dialog

The following device processing options are available:

Output method

Used to specify the output method for the job. Some output methods (for instance, LPT1) are only available if the operating system supports it. The following options are available:

`File`	Outputs to the disk location that is specified in File Output, using the file template options (if any) that are specified in File template. This is the default output method for the plugin.
`Network`	Outputs to the printer whose IP address and port number are specified in the Network Output settings. The printer must be fitted with a suitable network interface card (NIC) for this option to work.
`LPT1`	Windows only. Outputs to the printer attached to the parallel port on the RIP machine.
`USB:<printer model>`	Outputs to the printer which is connected via USB to the RIP machine. Where <*printer model*> is the model name returned by the printer. Note that a printer will only appear when the host USB subsystem has acknowledged its presence.

`SPL:<printer name>`

Where <*printer name*> is the name by which the printer is known to Windows. The plugin outputs data via the Windows printer spooler, offering the possibility of outputting to connection methods not directly supported by the plugin, such as *Firewire*.

File Output

Used to specify a location for the output file. By default it is the RIP's `SW` folder, but you may choose any valid location on your system or network.

File template

Used to enter a file naming template for the processed jobs. By default the file naming template is: `<dos>out<5unique><dot>epf`, which creates a file name that is cross platform (8.3 file name) and is suitable for multi-page jobs. See Appendix 6, "Output File Naming" for more information on using file naming templates.

IP address

Used to specify the network IP address or resolved name of the printer.

Port number

The TCP/IP port number used by the device to accept print jobs. If you have installed a 10/100 Base-T type B Ethernet card the Port Number should be set to `515`, unless you are using an Epson 10/100 Base TX Internal Print Server 2 interface card (C12C823914), or later, in which case you can set it to `9100`, for bidirectional communication. If sending output to a single printer using a JetDirect unit the Port Number must be set to `9100`.

Some print servers can drive several printers simultaneously and the different physical connections or ports have their own numbers (which may vary with the type of server). For example, on a JetDirect unit with three output ports, the physical ports named 1, 2, and 3 have port numbers `9100`, `9101`, and `9102` respectively.

For genuine Epson network interface cards the following ports are commonly available:

`9100` — Used for raw (no protocol), binary and bidirectional communications.

`515` — Used for lpr-protocol, binary and unidirectional commumications.

For non-Epson network print servers consult the relevant documentation, but note that port `515` is less likely to work with non-Epson interfaces.

Media type

Used to specify the media that is installed in the printer.

Note: This setting can be overridden by the Profile Hook associated with a selected Proof-Ready profile.

Ink type

Used to specify the ink type that is installed in your Epson printer. Your printer manual should be able to advise you on the correct ink type to use for the paper you are using.You must choose the correct ink type, otherwise an error message will be generated and you will not be able to print (except on the Stylus Photo 2200, which is unable to recognize when an incorrect ink type is selected).

Epson Stylus Pro 5500 — the `Archival (pigment) ink` option is automatically selected and cannot be changed because this printer only supports pigment-based ink sets.

Epson Stylus Pro 10600 — Options include `UltraChrome (PhotoK)` and `UltraChrome (MatteK)`, which correspond to the two black ink modes available when using an UltraChrome™ ink set with this device: *Photo Black mode* (optimized for photographic and ink jet coated media types) and *Matte Black mode* (optimized for matte or plain media).

Epson Stylus Pro 7600/9600 — Options include `UltraChrome (PhotoK+LightK)`, `UltraChrome (MatteK+LightK)`, and `UltraChrome (MatteK*2)`, which correspond to the three black ink modes available when using an UltraChrome™ ink set with this device: *Photo Black mode* (optimized for photographic and ink jet coated media types); *Matte Black mode* (optimized for matte or plain media, where quality is favored over print speed).

If your printer is one that provides a choice of ink type, the type or combination your printer is using should be selected in the Ink Type menu from one of:

Dye ink	Photographic Dye
Archival (pigment) ink	Archival/ColorFast

UltraChrome ink	UltraChrome, using the default or only variation. The default, unless otherwise stated, is Photo Black for single-black devices, Photo Black with Light Black for dual-black devices.
UltraChrome (PhotoK+LightK)	UltraChrome using Photo Black with Light Black
UltraChrome (MatteK+LightK)	UltraChrome using Matte Black with Light Black
UltraChrome (MatteK*2)	UltraChrome using 2 Matte Blacks
UltraChrome (PhotoK)	UltraChrome using Photo Black on its own
UltraChrome (MatteK)	UltraChrome using Matte Black on its own.

The exact list of options is device dependent, see "Setting device options" on page 13 for more information.

ProofReady profiles supplied by Global Graphics use a prefix to the profile name to differentiate, for printers supporting more than one type of ink, the ink type selection which must be used for the profile.

The prefixes for devices supporting more than one major ink type are:

`Arc`	Archival (pigment) ink
`Dye`	Dye ink
`Ucm`	UltraChrome (PhotoK) or UltraChrome (PhotoK+LightK)
`UcmMkLK`	UltraChrome (MatteK+LightK)
`UcmMk`	UltraChrome (MatteK) or UltraChrome (MatteK*2) for dual-black printers.

For example:

Arc Enhanced Matte 720

Dye Pres Matte 720

Ucm Prem SemiGloss 720

The prefixes for devices only supporting UltraChrome ink (such as the Stylus Photo 2200) are:

`MkLk`	UltraChrome (MatteK+LightK)
`Mk`	UltraChrome (MatteK) or UltraChrome (MatteK*2) for dual-black printers

For example:

Premium Glossy 720

MkLk Enhanced Matte 720

Most professional series printers will reject a job (see "`Command error...`" error message, as documented in "Printer messages" on page 61) if the ink type used when the job was processed by the RIP does not match the inks loaded in the printer. The plugin also tries to query the ink type where possible, in order to avoid sending a job of the wrong type to the printer (see "`The selected ink type is incorrect...`" "Printer messages" on page 61).

Paper feed adjustment offset

Enter a value in the range between -70 and +70 to control the rate of feed of the paper for your particular printer. The default value is zero. Positive values increase the rate of feed to reduce dark banding. Negative values decrease the rate of feed to reduce white banding.

Quality

Used to specify the overall output quality of the job. For excellent quality, choose "Enhanced Microweave", for faster printing (but lower quality) choose "Faster Microweave". For good quality/speed use "Standard Microweave". Use "Printer Microweave" to let the printer handle the microweave processing, if it can.

Compression

Used to specify the compression mode for data that is delivered to the printer. The available options are as follows:

None	Data is sent raw (uncompressed). Can result in longer print times.
Run length	Data is sent compressed, which often reduces the transmission time and hence speeds up printing.

Paper size

This option is not enabled. Instead, use the options in the Page Layout dialog to specify the paper size, as described in "Page, media and paper size" on page 34.

Paper bin

This option is not available for the Epson VSD printer plugin.

Cut paper at end of each page

If using a roll-fed device, select this option to have the printer cut the paper at the end of each page. This option will be overridden by the printer if paper cutting is not enabled in the printer.

Bidirectional printing

Select this option to use bidirectional printing, which allows the print head to print both when moving left to right and when moving right to left, thus speeding up printing. Be sure to check the output quality when bidirectional printing is being used.

Post processing:

Use the panel options to set up your post processing options. You may enter any command that can be run from a command line, and use the substitution codes listed in Appendix 7, "Post processing" to pass parameters to the command for executing. Note that Enable must be selected before the commands will execute.

Note: Windows commands interpreted by cmd.exe, such as echo, cannot be run directlty, and should be incuded in a batch file.

2.3 Adding new output devices

The Harlequin RIP printer plugins supplied by Global Graphics often contain devices for more than one type of printer model. To limit the device list, however, only a single set of devices is added to the device list when a printer is enabled in the RIP. To add other devices you must add them manually, one at a time, as described next.

1. Open the Harlequin RIP Device Manger, by choosing Harlequin RIP > Device Manager.
2. From the plugin list, select the correct plugin.
3. Click New to open Device Manager Edit.
4. Enter the following details:

Name	A name for the device. This should match the device name (including the use of upper and lower case letters).
Type	Choose a type from the list.
Address	Leave blank.

5. Click OK to apply these settings.

The new device will be created and will appear in the list of devices available for selection in a page setup.

2.4 Halftone screen selection

The Harlequin RIP supplies halftone screens of various types for use with printers which support six, seven, eight or more inks. Screen selection is largely an automatic choice determined

by the selected device. In particular, you should not change the default screening method when using ProofReady profiles as this will certainly affect the print quality.

A detailed explanation of the screens which are available and what effect they have on printed output is beyond the scope of this manual, but a brief description for each screening method is given below.

HEDS 1
This is one of the in-RIP EDS screens used to produce the supplied profiles for 1-bit (single dot) device types. To use this screen, the HEDS1 screening plugin must be installed and enabled, as described in "Screening plugin compatibility" on page 8.

HEDS 2
This is one of the in-RIP EDS screens used to produce the supplied profiles for 2-bit (variable size dot) device types. To use this screen, the HEDS2 screening plugin must be installed and enabled, as described in "Screening plugin compatibility" on page 8.

HDS Super Fine (HDS SF)
This is one of the screens used to produce the supplied profiles for biplane device types. If using a supplied profile based on this screen, ensure that this option is selected from the Edit Style dialog box accessed from the Separations Manager. This screen is only available for use with biplane or 1-bit (single dot) device types.

HDS Fine
This is an alternative to HDS Super Fine, producing a coarser screen than HDS Super Fine. This screen is only available for use with biplane or 1-bit (single dot) device types.

HDS Medium
HDS Coarse
HDS Super Coarse
The Medium, Coarse, and Super Coarse variants of HDS are only recommended as special effects screens. These screens are only available for use with biplane or 1-bit device types.

Chain
This screen is only available for use with biplane or 1-bit device types.

Chapter 3–ProofReady Profiles

To address the needs of print production professionals and their requirement for great looking proofs “out of the box”, the Epson VSD plugin includes ProofReady profiles for Harlequin RIPs.

3.1 Supplied ProofReady profiles

The ProofReady profiles supplied for the Epson VSD printer are listed in Table 3.1on page 24. The table also lists the media type, resolution, halftone screening method and inking scheme used to create the profile. If a suitable profile is not available for your particular setup, you will need to create your own, by following the instructions in Chapter 5, “Calibration and Color Management”, which describes the procedures for creating ICC and ColorPro profiles and for calibrating the printer to ensure consistent and reliable results.

ProofReady profiles are available for selection in a page setup once a device that supports them has been selected and the *Harlequin ColorPro* plugin has been enabled in RIP Extras, as described in “Enabling the printer plugin” on page 6. For details on configuring a page setup to output to the Epson printer, see Chapter 4, “Creating Page Setups”.

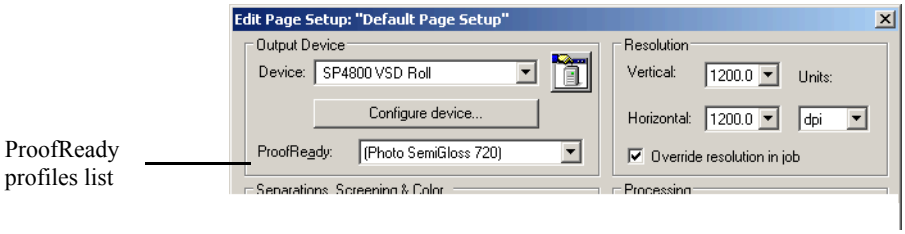

Figure 3.1 Page Setup dialog shown location of ProofReady profiles

Table 3.1 lists the ProofReady profiles supplied with the Epson VSD plugin and shows the screening method used to create each profile..

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Table 3.1 Epson VSD ProofReady profiles

ProofReady Profile (*Device name*)	**Paper (part no.)**	**Screening**
Epson 2200		
`Premium Glossy 720/1440` (SP2200 VSD)	Premium Gloss (S041286)	HEDS2
`Premium SemiGloss 720/1440` (SP2200 VSD)	Premium Semi-Gloss (S041331)	HEDS2
`MkLk Enhanced Matte 720/1440` (SP2200 VSD)	Enhanced Matte (S041341)	HEDS2
Epson 4000		
`Enhanced Matte 360` (SP4000)	Epson Enhanced Matte Paper (SO41725)	HDS Super Fine
`Premium Glossy 250g 2880` (SP4000)	Epson Premium Glossy Photo Paper 250g (SO41315)	HDS Super Fine
`Enhanced Matte 720/1440` (SP4000 VSD)	Epson Enhanced Matte Paper (SO41725)	HEDS2
`Mitsu PRN Newsprint 720` (SP4000 VSD)	Mitsubishi Newsprint	HEDS2
`Premium Glossy 250g 720/1440` (SP4000 VSD)	Epson Premium Glossy Photo Paper 250g (SO41315)	HEDS2
`Premium Luster 250g 720` (SP4000 VSD)	Epson Premium Luster Photo Paper 250g (S041737)	HEDS2
`SemiMatte Proof 720/1440` (SP4000 VSD)	Epson Proofing Paper Semi-Matte (SO41724)	HEDS2

Table 3.1 Epson VSD ProofReady profiles (Continued)

ProofReady Profile (*Device name*)	**Paper (part no.)**	**Screening**
`SWOP-cert SemiMatte Proof` *(SP4000 VSD) See "Notes on the profiles" on page 29 below.*	Epson Proofing Paper Semi-Matte (SO41724)	HEDS2
Epson 5500		
`Archival Matte 720` (SP5500 VSDbi)	Epson Archival Matte Paper (SO41339)	HDS Super Fine
`Premium SemiGloss 720` (SP5500 VSDbi)	Epson Premium Semigloss Photo Paper (SO41327)	HDS Super Fine
`Pro Glossy 720` (SP5500 VSDbi)	Epson Professional Glossy Paper (SO41430)	HDS Super Fine
`Archival Matte 720/1440` (SP5500 VSD)	Epson Archival Matte Paper (SO41340)	HEDS2
`Premium SemiGloss 720/1440` (SP5500 VSD)	Epson Premium SemiGloss Photo Paper (S041328)	HEDS2
`Pro Glossy 720/1440` (SP5500 VSD)	Epson Professional Glossy Paper (SO41457)	HEDS2
Epson 7600		
`Ucm Enhanced Matte 2880` (SP7600)	Epson Enhanced Matte Paper (S041595)	HEDS1
Ucm Premium Glossy 250g 2880 (SP7600)	Epson Premium Glossy Photo Paper (250) (S041638)	HDS Super Fine
`Ucm Glossy Photo Wt 2880` (SP7600)	Epson Glossy Paper Photo Weight (S041388)	HEDS1
`Ucm SemiMatte Proof 2880` (SP7600)	Epson SemiMatte Proofing Paper (S041658)	HEDS1

Table 3.1 Epson VSD ProofReady profiles (Continued)

ProofReady Profile (*Device name*)	**Paper (part no.)**	**Screening**
`Dye Glossy Paper Hvy 720` (SP7600 VSD)	Epson Glossy Hvy Wt (S041291)	HEDS2
`Dye Pres Matte 720` (SP7600 VSD)	Epson Presentation Matte (S041295)	HEDS2
`Dye SemiGloss Hvy 720` (SP7600 VSD)	Epson Semi-Gloss Hy Wt (S041292)	HEDS2
`Ucm Enhanced Matte 720/1440` (SP7600 VSD)	Epson Enhanced Matte Paper (S041595)	HEDS2
`Ucm Glossy Photo Wt 720` (SP7600 VSD)	Epson Glossy Paper Photo Weight (SO41388)	HEDS2
Ucm Premium Glossy 250g 720/1440 (SP7600 VSD)	Epson Premium Glossy Photo Paper (250) (S041638)	HEDS2
`Ucm SemiMatte Proof 720/1440` (SP7600 VSD)	Epson SemiMatte Proofing Paper (S041658)	HEDS2
Epson 9600		
`Ucm Enhanced Matte 2880` (SP9600)	Epson Enhanced Matte Paper (S041595)	HEDS1
`Ucm Glossy Photo Wt 2880` (SP9600)	Epson Glossy Paper Photo Weight S041388	HEDS1
Ucm Premium Glossy 250g 2880 (SP9600)	Epson Premium Glossy Photo Paper (250) (S041638)	HDS Super Fine
`Ucm SemiMatte Proof 2880` (SP9600)	Epson SemiMatte Proofing Paper S041658	HEDS1
`Dye Glossy Paper Hvy 720` (SP9600 VSD)	Epson Glossy Hvy Wt (S041291)	HEDS2

Table 3.1 Epson VSD ProofReady profiles (Continued)

ProofReady Profile (*Device name*)	**Paper (part no.)**	**Screening**
`Dye Pres Matte 720` (SP9600 VSD)	Epson Presentation Matte (S041295)	HEDS2
`Dye SemiGloss Hvy 720` (SP9600 VSD)	Epson Semi-Gloss Hy Wt (S041292)	HEDS2
`Ucm Enhanced Matte 720/1440` (SP9600 VSD)	Epson Enhanced Matte Paper (S041595)	HEDS2
`Ucm Glossy Photo Wt 720` (SP9600 VSD)	Epson Glossy Paper Photo Weight (S041388)	HEDS2
Ucm Premium Glossy 250g 720/1440 (SP9600 VSD)	Epson Premium Glossy Photo Paper (250) (S041638)	HEDS2
`Ucm SemiMatte Proof 720/1440` (SP9600 VSD)	Epson SemiMatte Proofing Paper (S041658)	HEDS2
Epson 10000		
`Arc Enhanced Matte 720/1440` (SP10000 VSD)	Epson Enhanced Matte Paper (S041595)	HEDS2
`Arc Prem SemiGloss 720/1440` (SP10000 VSD)	Epson Premium SemiGloss Photo Paper (S041393)	HEDS2
`Arc Premium Glossy 720/1440` (SP10000 VSD)	Epson Premium Glossy Photo Paper (S041390)	HEDS2
`Dye Glossy Paper Hvy 720/1440` (SP10000 VSD)	Epson Glossy Paper Heavy Weight (S041291)	HEDS2
`Dye Pres Matte 720/1440` (SP10000 VSD)	Epson Presentation Matte Paper (SO41295)	HEDS2
`Dye SemiGloss Hvy 720/1440` (SP10000 VSD)	Epson SemiGloss Paper Heavy Weight (S041292)	HEDS2

Table 3.1 Epson VSD ProofReady profiles (Continued)

ProofReady Profile (*Device name*)	**Paper (part no.)**	**Screening**
`Dye Glossy Photo 360/720/1440` (SP10000 VSDbi)	Epson Glossy Photo Paper	HDS Super Fine
`Dye Pres Matte 720` (SP10000 VSDbi)	Epson Presentation Matte	HDS Super Fine
`Dye Semigloss 720` (SP10000 VSDbi)	Epson Semigloss Photo Paper	HDS Super Fine
Epson 10600		
`Arc Enhanced Matte 720/1440` (SP10600 VSD)	Epson Enhanced Matte Paper (S041595)	HEDS2
`Arc Prem SemiGloss 720/1440` (SP10600 VSD)	Epson Premium SemiGloss Photo Paper (S041393)	HEDS2
`Arc Premium Glossy 720/1440` (SP10600 VSD)	Epson Premium Glossy Photo Paper (S041390)	HEDS2
`Dye Glossy Paper Hvy 720/1440` (SP10600 VSD)	Epson Glossy Paper Heavy Weight (S041291)	HEDS2
`Dye Pres Matte 720/1440` (SP10600 VSD)	Epson Presentation Matte Paper (SO41295)	HEDS2
`Dye SemiGloss Hvy 720/1440` (SP10600 VSD)	Epson SemiGloss Paper Heavy Weight (S041292)	HEDS2
`Ucm Enhanced Matte 720/1440` (SP10600 VSD)	Epson Enhanced Matte Paper (S041595)	HEDS2
`Ucm Glossy Photo Wt 720/1440` (SP10600 VSD)	Epson Glossy Paper Photo Weight (S041388)	HEDS2
`Ucm SemiMatte Proof 720/1440` (SP10600 VSD)	Epson SemiMatte Proofing Paper (S041658)	HEDS2

3.2 Notes on the profiles

The following notes are applicable for the Epson VSD profiles:

- The `SWOP-cert SemiMatte Proof` profile for the Epson 4000 is based upon the SWOP (CGATS TR001) data set, and was made by measuring the IT8 color target over a black background, since this is how the CGATS TR001 data set was prepared. For this reason, proofs printed using this profile should be measured or viewed with the print placed on a black background. (When calibrating the printer for this profile, however, the calibration target should still be measured over white.)

Some paper types are named differently in different markets. The UK: and US: prefixes in the Paper Type column show where these differences are known.

Chapter 4–Creating Page Setups

Every job that you supply to the RIP takes its imaging options from a named page setup. You can keep a number of different page setups which you use regularly—perhaps one that has Harlequin Precision Screening (HPS) turned on, and one that does not, one that previews images, and one that produces proofs for a particular paper type and resolution.

This section describes which imaging options to choose when outputting to the Epson VSD printer plugin, and in particular which options to choose when creating press proofs.

4.1 Creating a page setup

Follow these steps to create a page setup for an Epson VSD device that includes color management using a ProofReady profile.

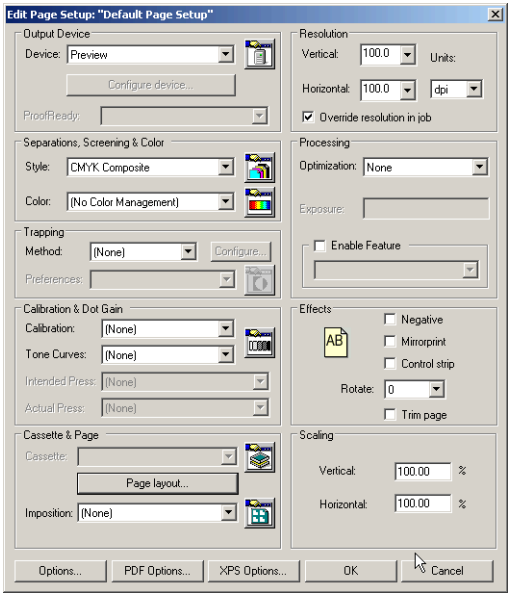

Figure 4.1 The Page Setup dialog is used to set job imaging options

1. In the Harlequin RIP, open the Page Setup Manager by choosing Harlequin RIP > Page Setup Manager, or using the shortcut key CTRL+S.
2. Click New in the Page Setup Manager to create a new page setup.
3. Click Device and choose the Epson device that you wish to use when processing jobs. See Chapter 2, "Output Devices" for details about which devices are available.

   To change any of the device settings, choose Configure device. See "Epson output devices" on page 11 for a list of Epson devices and their usage. In particular, the device options should be changed to suit your required output method, to add post processing commands (if needed), and to specify the correct media type and ink type. Do not, however, change the Quality setting from `Enhanced Microweave` when using ProofReady profiles, as the profiles were created specifically for this setting.
4. Depending on which paper you are proofing for, select the correct profile from the ProofReady list. If the correct paper type is not listed, you will need to create your own color profile, as described in "Creating ColorPro profiles" on page 40. See Chapter 3, "ProofReady Profiles" for a list of the ProofReady profiles supplied with the Epson plugin.
5. The following imaging options should be left at their default settings:

Resolution	Automatically set by the device.
Style	Automatically set by the device.
Color	Automatically set by the ProofReady profile.
Calibration	Automatically set by the ProofReady profile. For optimum results you should choose a calibration set generated for your printer, rather than for a reference printer. See also, "Calibrating the printer" on page 35.
Tone curves	Automatically set by the ProofReady profile.

6. Halftone screen selection is automatically set by the chosen ProofReady profile. Or it can be selected manually through the Separations Manager, by changing the Dot shape option in the style sheet for something else. Be aware, however, that ProofReady profiles are created for a specific screening method, and that changing it may result in unsatisfactory results.
7. Click Page Layout to open the Page Layout dialog and use the options that are available to set your media size and page layout settings. It is important to match the printer settings (as set on the printer control panel) with the settings in Page Layout, if problems are to be avoided when outputting jobs. See Section 4.2 for further details on page layout.

8. When you have finished creating your page setup, click Save As and enter a name for your new page setup. It's good practice to choose a name which describes the purpose of the page setup. For example, `Epson VSD UCM Glossy Photo Wt1440`

The new page setup can now be used in the Harlequin RIP to process jobs.

4.2 Page layout options

The following points should be noted when setting the page layout options for a job.

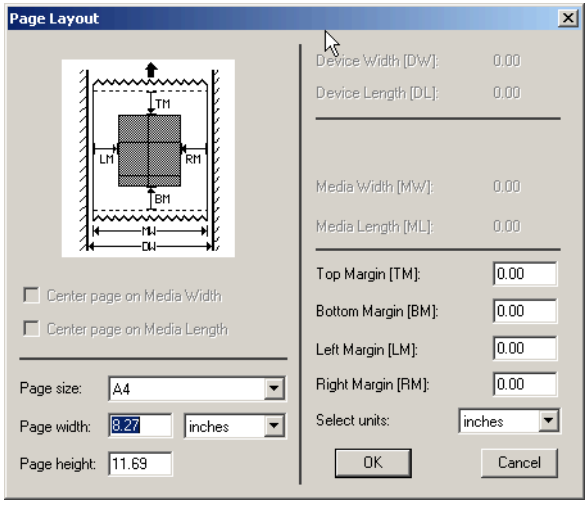

Figure 4.2 Page Layout options

4.2.1 Margins and centering options

The margins and centering options control where the imaged page is printed on the media. There is a small margin around the edge of the media which must also be taken into account. The margin width varies from printer to printer, but your printer manual should be able to provide the necessary information.

Sheet-fed devices

When the device is sheet-fed, the origin of the page defined by the job is located at the bottom-left of the sheet. However, in the Page Layout dialog box of some versions of the RIP, only the Top Margin (TM) is editable with a default value of `0.00` inches. If these default settings are applied the job will be located at the top-left of the sheet. To prevent this, the Top

Margin (TM) is applied as the Bottom Margin (BM). If your version of the RIP needs to swap these values a message confirming this is displayed in the RIP monitor window.

If you increase the Bottom Margin (BM) on a sheet-fed device, space cannot be added to the bottom of the page. This means that the space available on the sheet is reduced.

4.2.2 Page, media and paper size

In the context of the Epson page layout options, page size refers to the dimensions of the frame within which text and images are printed, and media size refers to the dimensions of the paper loaded into the printer. Epson, on the other hand, use the term “paper size” when talking about media size. To print unclipped pages, the page size must not exceed the media/paper size.

Most jobs specify their own page size, so setting the page size options is often not necessary. Exceptions include EPS files and font proofs. Depending on which device is selected (roll or sheet) some of the sizing options will not be available if they are not relevant.

4.2.3 Transverse paper

All the standard paper sizes are available as “transverse” paper sizes, in which the dimensions of the paper have been reversed. For example, with “A4 Transverse” the paper is loaded into the printer with the landscape edge (long edge) first. When using a transverse paper, all the other settings should remain at their default settings.

Chapter 5–Calibration and Color Management

The quality of your color management will have a strong influence on the overall quality, gamut range, tonal depth and color accuracy of your prints. It is vital, therefore, that your color profiles are created correctly, using a properly calibrated printer.

The information in this section describes how to calibrate your printer. Once you have done this you will be able to create ICC and Harlequin ColorPro profiles, and use them to manage color in your jobs.

For more information on managing color in the Harlequin RIP, see the *Harlequin ColorPro User's Guide* (for details on ColorPro).

5.1 Calibrating the printer

For optimum results, Global Graphics recommends that you calibrate the printer for *each* device, paper type and output resolution combination that you use. To provide a useful starting point, the plugin is supplied with a number of calibration profiles that define an ideal, or 'reference', state for the printer. These can be found in **…RIP_folder\SW\Config\Devices\DevCalibration**, one profile for each device type.

However, the response of your printer (the 'user printer') will undoubtedly differ from the reference printer. Therefore, to obtain optimum output quality, you need to calibrate the printer so that it responds in the same way as the reference printer. The adjustments needed to correct the user printer so that it matches the reference printer are defined in a calibration set. The supplied calibration profiles are distinguished from user-generated calibration sets by being enclosed in parentheses, like these `( )`.

5.1.1 Print and measure an initial target

1. Create a page setup in the Harlequin RIP with the following options:

- Device—select the correct device
- ProofReady—select `(None)`
- Calibration—select the paper/resolution type

2. In the Harlequin RIP, click Output > Print Calibration to open the Print Calibration window. From the list choose your page setup then click Print uncalibrated target.

3. Measure the printed target with *Genlin*, or your preferred calibration program. *Genlin* is installed with the Harlequin RIP and is described in the *RIPMate User Guide*.

4. In the Harlequin RIP, click Output > Calibration Manager to open the Calibration (Dot Gain) Manager. In the Manager click Device and select the correct device, then click New to open the Edit uncalibrated target for… window.

5. In Edit uncalibrated target for…, click Profile and select the correct paper/resolution type. All other options should be left at their default settings (ensure Force solid colors remains unchecked).

6. In the Name field, enter an appropriate name for the initial profile, for example `Premium Glossy 250g 1440-1`.

7. Click Import > Import to read the calibration data.

8. Click OK until all open windows are closed.

5.1.2 Print and measure a second target

1. Open your page setup (the one you used to print the initial target). From the Calibration list, select the calibration profile you just created (`Premium Glossy 250g 1440-1`) then click OK to close the page setup window.

2. Open the Print Calibration window. Select your page setup and click Print calibrated target (note this time you are selecting *calibrated* target). Measure the printed target.

3. Open the Calibration (Dot Gain) Manager. Select the appropriate device and choose the calibration profile that you made with the initial target.

4. Click the Copy button to create a duplicate of the profile. From the list select the copy and click Edit from calibrated target to open the Edit calibrated target for… window.

5. Change the name of the profile to `Premium Glossy 250g 1440-2` and click Import > Import to add the calibration set.

6. Click OK until all open windows are closed.

5.1.3 Print and measure a final target

1. In the RIP, open your page setup and from the Calibration list select `Ucm Enhanced Matte 720-2`. Click OK to close the window.

2. Open the Print Calibration window. Select your page setup and click Print calibrated target. Measure the target with *Genlin* or your preferred calibration program.

3. Open the Calibration (Dot Gain) Manager. Select the device and the calibration set you created for the second target.
4. Click the Copy button to create a copy of the profile. Select the copy and click the Edit from calibrated target button.
5. Name the profile `Premium Glossy 250g 1440-F`, to indicate it is the final calibration set. Click Import to read the calibration data, and click OK to add the calibration set to the Calibration Manager. You should remove all the intermediate calibration sets from the Calibration Manager to avoid choosing the wrong profile in a page setup.
6. Modify your page setup so that it uses the final calibration set.

5.2 Recalibrating

You should periodically recalibrate the printer to ensure consistent output results, as follows:

1. Click Output > Print Calibration to open the Print Calibration window. Select the appropriate page setup and click Print calibrated target. Measure the printed target.
2. In the RIP, click Output > Calibration Manager to open the Calibration (Dot Gain) Manager window and select the calibration set used in the page setup.
3. Click Edit from calibrated target to open the Edit calibrated target for… window. Click Import > Import to read the calibration data and OK to save the profile. You may want to enter a new name for the profile to indicate it is an updated profile, for example `Ucm Enhanced Matte 720-Date`.
4. Modify your page setup so that it uses the new calibration set.

5.3 Creating an ICC profile and installing in the RIP

Creating an ICC profile and installing it in the RIP consists of:

1. “Creating a suitable page setup” on page 38.
2. “Printing and measuring an ICC target:” on page 39.
3. “Install the ICC profile in your RIP” on page 39.

5.3.1 Creating a suitable page setup

To process the ICC profiling targets and output them to a printer, you will need to create a page setup which uses the correct printer model, media type, ink and output quality, as described in Chapter 4, “Creating Page Setups”. The page setup must *not* have any color management or calibration options selected; these should be set to `(None)` or `(No color management)` as applicable. Or, if you have created a “Golden State” profile for the printer, using Global Graph-

ics' *SetGold* utility for example, you may select the profile and use it as a suitable reference state for the printer. See Chapter 5—Configuring Output Formats in the *RIPMate User Guide* for more information about creating page setups.

Note to OEMs: The SetGold utility can be used to create a suitable reference state calibration profile. See the *SetGold User Guide* for details. Alternatively, you can manually create a linearization profile by referring to the manual *Harlequin Profiles and Calibration*.

Having created a suitable page setup, use it to print the ICC profiling target and measure it using an appropriate software package.

The exact procedure you should use varies from package to package, but it is possible to give some general hints:

- **Total area coverage:** For some paper types the total area coverage should be limited. This depends on the paper, ink type, resolution and screening used, but a good guide is to limit the coverage for coated media (Premium) to 280%, whereas matte media should be around 320%. Some experimentation may be required to determine the optimum setting.
- **Number of patches:** Although the number of color patches printed and measured is not always a guide to color quality, it is generally true that printing more patches produces better results for any given ICC profiling package.

Having created the ICC profile, install it using the menu option Color > Install ICC Profile. In the Linear Calibration From menu in the Install ICC Profile dialog box choose either:

- `Linear` if the page setup you used contained no color management data (raw state); *or*
- The name of the calibration profile or calibration set that you used in the page setup (golden state). The calibration data is incorporated into the ICC profile when you import it. This means you can delete the temporary calibration profile or calibration set once you have imported the ICC profile.

You can create a color setup using this profile (see "Creating ColorPro profiles" on page 40 for details).

5.3.2 Printing and measuring an ICC target:

Using your page setup, print the ICC target and measure it with your favorite profiling tool, and save the profile to a suitable location.

Some hints for obtaining better results:

- **Total area coverage:** For some paper types the total area coverage should be limited. This depends on the paper, resolution and screening used, but a good guide is to limit the coverage to 280% for uncoated papers and to 340% for coated papers. Some experimentation may be required to determine the optimum setting.
- **Black generation:** The presence of black ink in highlights can in some cases be objectionable and can introduce an unnecessarily grainy appearance to some images. Select a setting which images black only in dark regions. (If it is not clear which settings will image black only in dark regions, select the minimum amount of black generation allowed by the ICC profiling package.)
- **Number of patches:** Although the number of color patches printed and measured is not always a guide to color quality, it is generally true that printing more patches produces better results for any given ICC profiling package.

5.3.3 Install the ICC profile in your RIP

The ICC profile can be installed using the Install ICC Profile dialog (Figure 1).

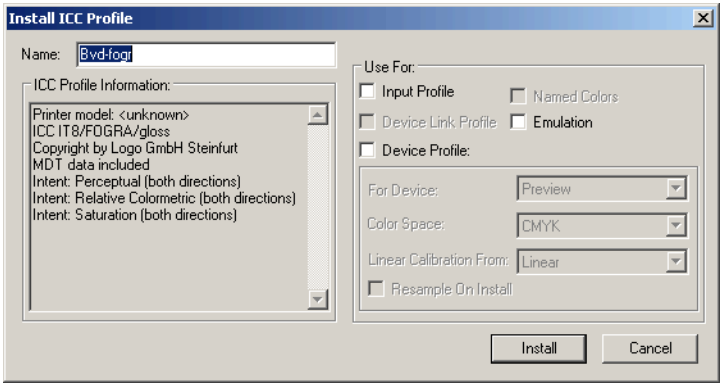

Figure 1 The Install ICC Profile dialog

In your RIP, select Color > Install ICC Profile and select the profile you created above that you wish to import. In the Install ICC Profile dialog, select the following options:

- Device profile: Check this option to add a profile for the output device.
- For Device: Select from the drop-down list the device the ICC profile is to be used for.
- Linear calibration from: Select from the drop-down list `Linear` if the page setup contained no color management data, or the name of the *Golden state* profile used to create the target.

- The name of the calibration profile or calibration set that you used in the page setup (golden state).

After installing this profile you can use it to create a color setup, as described next.

5.4 Creating ColorPro profiles

The selection of a calibration profile (pre Eclipse Release RIPs) or a ProofReady profile (Eclipse Release or later RIPs) automatically includes a default color setup to provide instant color management. The color profiles used in the default color setups are also available for the creation of your own color setups. Alternatively, you could also create a color setup using imported ICC profiles. See "Creating an ICC profile and installing in the RIP" on page 37 for further information on creating ICC profiles. Creating your own color setup allows you to specify the input profiles as well as other color setup options.

Follow these steps to create a color setup:

1. Choose the menu option Color > Color Setup Manager.
2. Choose the device for which you want to create this color setup from the Device menu.

   For example, choose `SP VSD Roll`.
3. Click New 'ColorPro' Setup.
4. In the New Color Setup dialog box, choose the options for the color setup you are creating.

   For example, choose `3M Matchprint` for the CMYK input profile and `sRGB` for the RGB input profile and then choose `Premium Glossy 250g 1440` as the output profile.
5. Choose Default Perceptual from the Output Rendering Intents menu.
6. Set the remaining options as desired. For details of these options see the *Harlequin ColorPro User's Guide*.
7. Click Save As to save this color setup.
8. Enter a name for the color setup in the Save As text box in the Save Setup dialog box. Click Save and then OK to close the Color Setup Manager.

You may now use this color setup in a page setup.

Appendix 6–Output File Naming

Using text and tags you can automatically generate an output file name from the job name, job details (such as colorant information and resolution), or date and time information. The tags are entered in the **File Template** field in the Epson Configuration dialog box, and a complete list of supported tabs can be found in Table 6.1, page 43.

Most tags are content tags, representing variables such as the date and time a job is processed; the other tags allow you to reject names that would be illegal in a specified operating system. The maximum length of variables can be specified by preceding the tag name with an integer. For example, `<5jobname>` truncates the job name to a maximum of five characters. Tags that produce numeric values are truncated from left to right, whereas tags that produce alphanumeric strings (strings containing the characters a-z, A-Z, and 0-9) are truncated from right to left. See "Examples of tag usage" on page 45 for further details.

Fixed text can be part of the file name stem or extension. For example, *stem*`_<3unique><sepname><dot>epf` would generate a file name of the form: *stem*`_000Cyan.epf`, in which *stem*`_` can be any identifying text.

Try to use a file name extension that does not clash with any established convention. The extension `epf` is a suggestion only and is formed from the initial letters of *Epson Printer File*.

Note: This file naming scheme does not provide useful file names derived from job names that contain double-byte characters.

6.1 Content generating tags

The following tags are available and can be used in any order

Tag	Description
`<colorant>`	The color space of the device, such as PhotoInk**.**
`<colorname>`	The name of the separation, such as `Cyan`.
`<date>`	The date when the job is processed, in the format `YYYYMMDD`, unless a truncated form is specified.

Table 6.1 Output file name tags

Tag	Description
<dot>	Separates the stem of the file name from the file extension, and appears as a period character (.) in the file name. For example, *stem*<dot>*ext* appears as stem.ext. The use of the <dot> tag enables the verification of the stem and extension lengths.
<job#>	The job number allocated by the RIP. Automatic numbering means that successive jobs have incremented job numbers: 000, 001, 002, 003, and so on.
<jobname>	The page buffer name without the page number prefix and without characters illegal to the operating system. White space characters are used, if present in the job name.
<jobname1>	The page buffer name without the page number prefix, and using only alphanumeric characters (a-z, A-Z, 0-9). White space characters are *not* used.
<jobonly>	This gives the job name without the separation name in brackets, For example, where <jobname> would give myjob(PANTONE Reflex Blue CVC), <jobonly> will give myjob.
<page#>	The page number (allocated by the RIP), within the current job. For example: 002.
<prefix>	The page number prefix from the page buffer name, such as 1., 2., and so on.
<prefixonly>	You can use this tag to include the characters from the prefix before the full stop in the job name (that is, the prefix, not including the dot and space characters).
<time>	The time when the job is processed, in the 24-hour format HHMMSS, unless a truncated form is specified.
<unique>	A unique sequence number used to make file names unique when outputting files to a directory.
<xres>	The horizontal resolution of the page, as specified in the page setup.
<yres>	The vertical resolution of the page, as specified in the page setup.

Table 6.1 Output file name tags

6.2 Checking tags

The plugin always checks the legality of an automatically generated file name against the requirements of the operating system on which the RIP and the plugin are running.

To enable portability of files from one operating system to another, you can also use tags to specify the operating system for which generated file names must be suitable. The use of these tags changes the rules by which a file name is deemed valid. The tags do not modify the file names generated, but cause error messages if the file name is invalid. See "File naming messages" on page 70 for more information on file naming messages.

For example, you can create the template `<dos>Averylongfilename.epf`, but an error is generated. This error occurs because DOS file names require the 8.3 format for stem and extension, which this template fails to meet by having 17 characters in its stem. Table 6.2 lists the operating system tags.

Tag	Description
`<ascii>`	This limits the character set of the file name (from the point of the tag onwards) to ascii characters in the range 32 (0x20) to 126 (0x7E). Char-actors outside this range are discarded. If the user wishes to substitute invalid characters rather than discarding them, prefix the ascii tag with the substitution character value in decimal.
`<dos>`	Verifies that the file name is a legal file name for the MS-DOS operating system.
`<mac>`	Verifies that the file name is a legal file name for the Mac OS 9.x operating system.
`<macosx>`	Verifies that the file name is a legal file name for the Mac OS X operating system.
`<unix>`	Verifies that the file name is a legal file name for the UNIX operating system.
`<win32>`	Verifies that the file name is a legal file name for Windows operating systems.

Table 6.2 Operating system tags

6.3 Examples of tag usage

The following examples demonstrate the format of strings produced by individual tags. Some examples also show how the tags may be used in combination to form a template. The examples are based on these job details:

Page buffer name: 1. Uncalibrated Target: Epson Stylus Roll-Fed 4-Color Target.

Date: 10th of March, 2007.

Note: When creating multiple copies of a file, the same page buffer provides tag information. If a template contains dynamic tags (such as `<time>`, where the value changes each time that a page buffer file is output), then multiple copies of the file are created. If the template contains just static tags (such as `<jobname>`, where the job name remains constant), then a single output file is created because previous files are overwritten.

`<colorant>`

This tag includes the color space of the device in the file name string.

For example, the template `<colorant><dot>epf` produces a file name of the form `PhotoInk.epf` for a device using a PhotoInk color space.

`<colorname>`

The tag `<colorname>` can be used to include the name of the separation in a file name, for example: `Cyan`. You can include just the first letter of the separation by using the tag `<1colorname>`, which truncates the separation name to its first letter. If a composite style is used this is indicated by the string `Composite`. If a monochrome style is used this is indicated by the string `Gray`.

`<date>`

The template `<date><dot>epf` produces the file name `20070310.epf`. You can remove the year information by using the tag `<4date>` to produce the file name `0310.epf`.

`<dos>`

The use of this tag verifies that the file name is suitable for use in a DOS operating system. Illegal characters such as a colon, and white space characters are removed.

For example, the template `<dos><jobname><dot>epf`, would generate an illegal file name because the job name is greater than the eight characters allowed in DOS operating systems. Truncation can be forced by using the template `<dos><8jobname><dot>epf`, which produces the file name `Uncalibr.epf`.

`<dot>`

This tag separates the file name stem from the file name extension and enables the verification of their lengths. It is particularly necessary when creating file names compatible with DOS and Windows, otherwise the extension may be considered as part of the file name.

For example, the template `<dos><8jobname>.epf` would cause an error because the dot is removed as an illegal character and `epf` is then considered part of the file name stem.

`<job#>`

You can use this tag to include the job number in the file name string. The default length of the number is three digits, so the first file name created with this tag would be 000, unless a different length is specified. You can specify the length of the job number by preceding the `<job#>` tag with an integer. For example, `<5job#>` creates job numbers five digits long.

In multi-page jobs use the `<page#>` tag as well as the `<job#>` tag to differentiate between the different pages of a job.

`<jobname>`

This tag ensures that only legal operating system characters are used in the job name.

For example, in the RIP running under any Microsoft Windows operating system, the template `<jobname><dot>epf` can produce the file name `Uncalibrated Target Epson Stylus Roll-Fed 4-Color Target.epf`. The colon character (`:`) is removed from the file name, because this is not a valid file name character for any version of Microsoft Windows.

`<jobname1>`

This tag ensures that only alphanumeric characters are used in the job name.

For example, in the RIP running under a Windows operating system, the template `<jobname1><dot>epf` can produce the file name `UncalibratedTargetEpsonStylusRollFed4ColorTarget.epf`. The colon, hyphens and white space characters are removed from the file name, because they are not alphanumeric characters.

`<macosx>`

The use of this tag verifies that the file name is suitable for use in a Mac OS X operating system. Illegal characters such as a colon, or double-quotation marks are removed.

For example, the template `<macosx><jobname><dot>epf` produces the file name `Uncalibrated Target Epson Stylus Sheet-Fed 4-Color Target.epf`, in which the colon has been removed.

`<page#>`

You can use this tag to include the page number in the file name string.

For example, the template `<page#><dot>epf` produces a file name of the form `001.epf`. It is advisable to use this tag with the job number tag to differentiate between the same pages of different jobs.

`<prefix>`

You can use this tag to include the page number prefix from the page buffer name in the file name string.

For example, based on the page buffer name above, this tag produces the string `1`.

`<time>`

You can use this tag to include the time a file is processed in the file name string.

For example, if printing to file at 15:39:36 (approximately 3:39 pm) this tag produces the string `153936`.

<unique>

You can use this tag to generate a unique sequence number for the page. The default length of the number generated is four digits long, so the first number would be 0000. The length of the number can be specified, as detailed in the example for the tag <job#>, e.g.<2unique>.

When restarting the RIP, the unique numbering will attempt to restart at its initial value, for example: 0000. However, if a file exists with that number, the next available unique number is used.

<unix>

The use of this tag verifies that the file name is suitable for use in the UNIX operating system. Illegal characters such as an asterisk, colon, and quotation marks are removed. The <dot> tag cannot be used with this tag because file names in UNIX are composed of a single string and are not considered to have separate file extensions.

For example, using the template <unix><255jobname>.epf produces the file name UncalibratedTargetEpsonStylusRoll-Fed4-ColorTarget.epf, in which the colon and white space characters have been removed.

<win32>

The use of this tag verifies that the file name is suitable for use in a Windows operating system. Illegal characters such as an asterisk, colon, or quotation marks are removed.

For example, the template <win32><jobname><dot>epf produces the file name Uncalibrated Target Epson Stylus Sheet-Fed 4-Color Target.epf, in which the colon has been removed.

<xres>

You can use this tag to include the horizontal resolution of the page in the file name string.

For example, you can differentiate between pages with a resolution of 1440 x 720 dpi and 720 x 720 dpi by using this tag. This tag produces a string such as 1440 or 720, depending on the horizontal resolution.

<yres>

You can use this tag to include the vertical resolution of the page in the file name string. For example, on a page with the resolution 1440 x 720, this tag produces the string 0720.

Appendix 7–Post processing

The Configuration dialog box has a Post processing: Command text box in which you can enter commands and their options, in the same way as a command line. These commands are carried out after the page buffer has been sent to the printer or once the output file has been created. The commands available depend on the platform on which you are running the RIP.

The command can be a simple batch file or a complex application, provided that you give the command all necessary options and information as a command; a command needing operator intervention is likely to cause problems. You can specify options understood by the application, and data such as the path of the relevant input or output files.

You can use post processing commands to convert the file to a different format or to send somebody an e-mail notifying them that a job has been processed. There are several other possibilities, such as extracting information for use in reports, limited only by your ability to obtain or create a suitable application and to supply information to it.

If the string you enter into the Post Processing: Command text box refers to a post processing application then this application must be available on the computer running the RIP. The string should normally include the file extension and the full path name of the application file. However, you can type just the file name if the application file has the extension `.EXE` and is in one of the directories specified by the `PATH` variable.

Your string can contain substitution codes, which are expanded by the RIP. See the next section for details.

7.1 Post processing substitution codes

When using the post processing feature of the Epson plugin, the RIP recognizes the substitution codes in the following list. You can insert an integer between the percent character and the

letter code, to restrict the maximum number of characters used in the result string. For example, `%6j` represents the first six characters of the job name.

Post processing substitution codes	Description
%c	The current separation color, represented by a string with a default length of one character. Typical separation names are `Cyan`, `Magenta`, `Yellow` and `Black`. Examples for the default length are: `C`, `Y`, `M`, and `B`.
%d	The current date in the format YYYYMMDD, with a default string length of 8. For example, 26 April 2007 becomes: 20070426.
%f	The output file name, as created by the template specified in the File Output: File Template text box in the Configuration dialog box. For example: `out00001.epf`.
%g	The current page buffer name as shown in the Output Controller/Monitor, after removal of the numeric prefix and non-alphanumeric characters. For example: the page buffer name `1. Apple.ps` becomes `Appleps`.
%j	The current page buffer name as shown in the Output Controller/Monitor. For example: `1. Apple.ps`.
%n	The current job number, an integer that the RIP increments each time it processes a new job. For example: `15`.
%o	The full output directory path specified in the File Output: Change... text box. For example: **C:\SWNT\SW\Output**.
%p	The current page number within the job. For example: `4`.
%r	The job resolution in dots per inch. For example: `300`.
%s	The current page buffer name as shown in the Output Controller/Monitor, after removal of the numeric prefix, any bracketed text and any text that appears before a colon (:), semi-colon (;), a commercial at symbol (@), and a hyphen (-). For example: the page buffer name `1. Apple-test(new).ps` becomes `test.ps`.
%t	The current time in the format HHMMSS, using the 24 hour clock. The default length is 6. For example, a time just after 7:30 pm would be shown: `193211`.
%x	The current file name suffix. For example: `epf`.
%z	The current file name stem. For example: `out00001`.

Table 7.1 Post processing substitution codes

7.2 Checking the command string

The RIP reports each command and the working directory in the main RIP monitor window, in the following form. Italics show which text can vary with different jobs and page setups.

```
Running post-job command "C:\test\logfile.bat out00002.epf 112442" in
directory C:\SWNT\SW\Output
```

The above example refers to a batch file (*logfile.bat*) which uses a program to send an e-mail confirming that a job has been processed. The e-mail contains the output file name (*out00002.epf*) and the time it was processed (approximately 11:24). These details were provided by using the substitution codes `%f` and `%t` in the post processing text box. The working directory is the output file folder specified in the File Output: Change... text box. If no output file folder is specified then the working directory is the '`SW`' directory in which the output file is created. This includes any resolution component indicated by an Add resolution to path setting in the plugin configuration dialog.

For a more thorough test of how commands behave when used at the command prompt of the operating system, try creating a batch (`.BAT`) file with these contents and using the name of the batch file as the application in your command string.

```
echo %1 %2 %3 %4 %5 %6 %7 %9
pause
```

Note: If you have problems with a command, test it outside the RIP by opening a command window and running the command manually. If you think that you have used any substitution code from which the RIP might generate an element containing characters with a special meaning to your operating system, try surrounding that code with double quotes. For example, use `"%f"` in the post processing text box rather than just `%f`.

If there are no special characters involved, look at the number of substitution codes that you are using and the length of the command string both before and after expansion of the substitution codes. The limit on the length of the expanded command string varies with the Microsoft Windows environment but you should have no problems with up to 125 characters in the string after expansion.

Appendix 8–Memory Requirements

To operate efficiently and reliably, the Harlequin RIP requires an adequate amount of memory when processing jobs. Depending on the size and complexity of the jobs you wish to process, you may need to allocate additional memory resources to the RIP when processing output for the Epson VSD printer.

8.1 Determining processing overhead

The following procedure will help you to determine how much memory "overhead" is required for the RIP when processing a job for the Epson VSD printer. Before you begin, you will need to know what the page size, output resolution, screening method and microweave settings are for the job(s) you wish to process. This information is available through the page setup dialog you are using to process the job.

1. Using the tables in "Memory factor tables" on page 57, look up the figures for the job you wish to process. For example, if the job is being output at 1440 dpi, using enhanced microweave with HEDS2 screening, the memory factors will be `8.2 / 2.2`. `8.2` is the *printer buffer* overhead, and `2.2` is the minimum memory left for system overhead.

2. To calculate the printer buffer overhead:

   ```
   Printer buffer overhead = (Page width in inches) x (printer buffer
   factor) + 5
   ```

   Example:

   Page width: `17` inches

   Printer buffer factor: `8.2`

   Printer buffer overhead: `(17 x 8.2) + 5 = 144.4 MB`

3. To calculate the *total* printer buffer required by the RIP:

   ```
   Total printer buffer = (Printer buffer overhead) + (Printer buffer
   base-recommendation)
   ```

The base-recommendation value for the printer buffer is `20 MB`, so the total printer buffer, using the example figures, is: `144.4 + 20 = 164.4 MB`, or approximately `169000 Kbytes`.

4. Enter the figure of `169000` in the Printer buffer box of the Configure RIP dialog, as shown Figure 8.1.

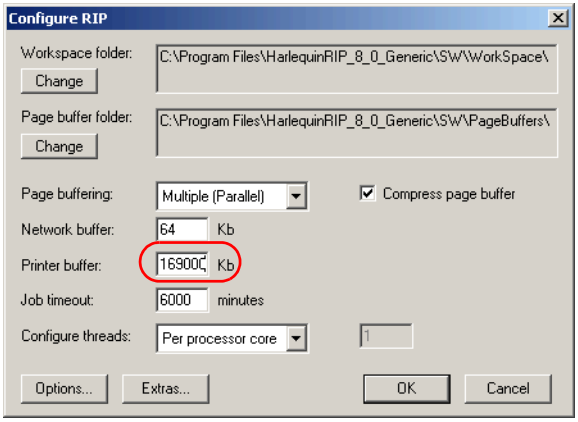

Figure 8.1 The Configure RIP dialog

5. To calculate the minimum memory left for system overhead:

```
Minimum memory left for system overhead = (Page width in inches) x
(minimum memory-left-factor)
```

Example:

Page width: `17` inches

Minimum memory left factor: `2.2`

Minimum memory left for system overhead: `17 x 2.2 = 37.4 MB`

6. To calculate the *total* minimum memory left for system required by the RIP:

```
Total minimum memory left for system = (Minimum memory left for system
overhead) + (Minimum memory left for system base-recommendation)
```

The base-recommendation value for the printer buffer is `30 MB`, so the total printer buffer—using the example figures—is: `37.4 + 30 = 67.4 MB`, or approximately `69000 Kbytes`.

7. Enter the figure of `69000` in the Minimum memory left for system box of the Configure RIP Options dialog, as shown Figure 8.2.

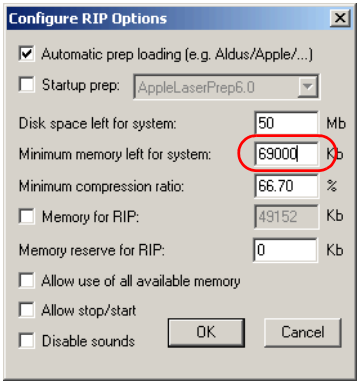

Figure 8.2 The Configure RIP Options dialog

8. Click OK to confirm your new memory settings.

8.2 Memory factor tables

Resolution (dpi)	Enhanced Microweave	Standard Microweave	Fast Microweave	Printer Microweave
360	0.2 / 0.4	0.2 / 0.2	0 / 0	0 / 0
720	0.6 / 1.1	0.6 / 0.6	0.6 / 0.6	0 / 0
1440	1.1 / 1.1	1.1 / 1.1	1.1 / 1.1	N/A
2880	4.1 / 4.2	4.1 / 4.2	4.1 / 4.2	0 / 0

Resolution (dpi)	Enhanced Microweave	Standard Microweave	Fast Microweave	Printer Microweave
360	1.2 / 0.7	1.2 / 0.4	0 / 0	0 / 0
720	4.1 / 2.2	4.1 / 1.2	4.1 / 1.2	0 / 0
1440	8.2 / 2.2	8.2 / 2.2	8.2 / 2.2	0 / 0

Table 1 Memory requirements for HEDS1 and HDS

HEDS1/HDS	**Print Quality**			
Resolution	Enhanced Microweave	Standard Microweave	Fast Microweave	Printer Microweave
Epson Stylus Pro 4000				
360 dpi	0.2/0.3	0.2/0.2	0/0	0/0*
2880 dpi	3.6/3.7	3.6/3.7	3.6/3.7	0/0*
Epson Stylus Pro 5500				
360 dpi	0.2/0.2	0.2/0.2	0.2/0.2	0/0*
2880 dpi	1.0/1.0	1.0/1.0	1.0/1.0	N/A
Epson Stylus Pro 7600/9600				
360 dpi	0.1/0.1	0.1/0.1	0.1/0.1	0/0*
2880 dpi	1.9/2.0	1.9/2.0	1.9/2.0	0/0*

Key:

N/A — Indicates that the `Printer Microweave` option is not available at that particular resolution.

* — There are no additional requirements when using the `Printer Microweave` option, as indicated by the 0/0 entries.

The following table lists the HEDS2 requirements:

Table 2 Memory requirements for HEDS2

HEDS2	**Print Quality**			
Resolution	Enhanced Microweave	Standard Microweave	Fast Microweave	Printer Microweave
Epson Stylus Pro 2200				
360 dpi	0.5/0.3	0.5/0.2	0/0	N/A
720 dpi	1.9/1.1	3.8/1.1	3.8/1.1	N/A

Table 2 Memory requirements for HEDS2

HEDS2	Print Quality			
Resolution	Enhanced Microweave	Standard Microweave	Fast Microweave	Printer Microweave
1440 dpi	3.8/1.1	3.8/1.1	3.8/1.1	N/A
2880 dpi	15.2/3.9	15.2/3.9	15.2/3.9	N/A
Epson Stylus Pro 4000				
360 dpi	0.9/0.6	0.9/0.4	0/0*	0/0*
720 dpi	3.6/1.9	3.6/1.0	3.6/1.0	0/0*
1440 dpi	7.1/1.9	7.1/1.9	7.1/1.9	0/0*
Epson Stylus Pro 5500				
720 dpi	1.7/0.5	1.7/0.5	1.7/0.5	N/A
1440 dpi	3.3/1.0	3.3/1.0	3.3/1.0	0/0*
2880 dpi	6.6/1.9	6.6/1.9	6.6/1.9	N/A
Epson Stylus Pro 7600/9600				
360 dpi	0.5/0.4	0.5/0.2	0.5/0.2	0/0*
720 dpi	2.0/1.1	2.0/0.6	2.0/0.6	0/0*
1440 dpi	3.9/1.1	3.9/1.1	3.9/1.1	0/0*
Epson Stylus Pro 10000/10600				
360 dpi	0.8/0.6	0.8/0.3	0.8/0.3	0/0*
720 dpi	3.1/1.7	3.1/1.7	3.1/1.7	0/0*
1440 dpi	6.1/1.7	6.1/1.7	6.1/1.7	0/0*

Appendix 9 – Troubleshooting

This section describes messages that may appear in the RIP monitor window and offers troubleshooting advice and tips on how to maximize your use of the plugin. If you have difficulty understanding any message, report the exact message to your support organization.

Note: Most of these messages appear in the RIP monitor window and are preceded by details of the plugin and device that you are using. For example:

```
ProofReady - Epson  Sheet
      Message...
```

9.1 RIP Monitor windows output messages

Any problems that occur when outputting a job will be reported by the RIP in the RIP monitor window. Most output problems can be cleared by aborting the output job in the RIP before removing the printer media.

9.1.1 Printer messages

The following printer-related messages may by reported by the plugin.

`Auto sheet feeder will not be used because it is not allowed with the selected media`

This message indicates that manual sheet feed has been forced on media that does not support it. These include: Smooth Fine Art Paper, Textured Fine Art Paper, Velvet Fine Art Paper.

`Auto cut has been switched off because it is not allowed with the selected media`

This message indicates that auto-cut has been prohibited on the selected roll media type.

`Printer rear cover open`

Output will stop until the printer cover is closed.

`Multi-sensor error`

See printer documentation.

`Cleaning failed`

See printer documentation.

`Ink levels K n%, C n%, M n%, Y n%, LC n%, LM n%, LK n%, ELK n%`

Where `n%` represents a number followed by a percent sign, for example, `87%`. Indicates the remaining percentage of ink for each of the cartridges on an 8-color printer loaded with 8-color inks.

`Ink levels K n%, C n%, M n%, Y n%, K2 m%, C2 n%, M2 n%, Y2 n%`

Remaining percentage of ink for each of the cartridges on an 8-color printer loaded with CMYK inks.

`Warning - ink low - cartridge %s`

Where `%s` is a string, for example, `#3`, or `#2`, `#5`, `#7`. This message indicates that one or more ink cartridges are getting low – the numbers refer to the cartridge positions, from left to right, on the printer. (The numbers should also be printed above the ink cartridge position on the printer). `#3` means cartridge number 3 is low. `#2, #5, #7` means cartridge number 2, cartridge number 5 and cartridge number 7 are all low.

`The selected ink combination does not match this printer`

This error occurs when the print job does not match the inks that are installed in the printer. For example, if you attempt to send a job to the printer that contains matte black and the printer only has photo black installed.

Note: The plugin is only able to output this message when it is able to query the printer and check the ink variant. On unidirectional communication connections, or if the printer is in a state which prevents it responding to the query, the plugin may be unable to detect the mismatch before it starts to send the job. In such cases, a command-error will occur on the printer.

`Control panel in use`

This message occurs when the printer control panel is being used. The plugin resumes printing when the printer allows it, that is, when the control panel is not being used.

`Paper gap error`

The paper is too thick or the adjustment lever is in the wrong position.

`Cutter position error`

The roll paper cutter did not return to the correct position.

`Cutter jam`

The cutter is jammed.

`Ink color error`

This error occurs when the ink is changed during a print, for example, the black ink was changed from Photo to Matte.

`Ink combination error`

An ink combination error.

`Warning: Top and Bottom Margin values will be swapped.`

This warning informs you that your version of the RIP needs to swap values specified in the Page Layout dialog box for the top and bottom margins to correctly deal with sheet-fed devices.

`Device overrides applied for profile (`*`profile details`*`)`

The device settings required by supplied profiles are known to the plugin and these settings override any settings you may have changed. This is to ensure correct color management.

`SWOP proofing overrides applied for profile 'SWOP-cert SemiMatte Proof'`

The device settings required by the SWOP certified profile are known to the plugin and these settings override any settings you may have changed. This is to ensure correct color management.

`Warning - no image in the printable region`

This warning is rare and only appears when an image smaller than the unprintable area is positioned at the edge of the media so that it is completely clipped. In this case, the job is processed but the output page will be blank.

`Resolution changed to` *N* `x` *N*

This message confirms that the square resolution setting in the Page Setup dialog box has been changed to a *N* x *N* mixed resolution.

`Page Layout media size is less than the Configure Device paper size - clipping may occur.`

This message can appear if you create a page setup that uses a custom paper size and you edit the page setup so that it uses a larger, standard paper size. If this is the case, clipping may occur because the media values in the Page Layout dialog used for the custom paper size are still associated with this page setup and in this instance they specify the maximum paper size. You can either change the media values in the Page Layout dialog box so that they are larger than the paper size chosen in the Configure Device dialog box, or you can create a completely new page setup.

`Image width too large for device - clipping may occur`
`Image height too large for devices`

These messages can occur when limits on the movement of the head prevent the printer from using the entire printable area of the media.

`Failed to allocate buffers for swathes (`*N* `Kb)`

If this message occurs, try increasing both the Minimum memory left for system and the Memory for the RIP by the amount shown in the brackets. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing Harlequin RIP > Configure RIP and clicking Options.

On a Macintosh platform, you must use the menu option File > Get Info to configure the memory for the RIP. You can then set the preferred size to your chosen value.

```
Failed to allocate buffer for compression swathe
Failed to allocate SwatheArray
Failed to allocate BandsCache; not enough memory
```

If any of these messages occurs, try increasing the Minimum memory left for system and the Memory for the RIP by multiples of 1 MB. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing Harlequin RIP > Configure RIP and clicking Options.

`Failed to allocate band buffers (`*N* `Kb); not enough memory`

If this message occurs, try increasing both the Minimum memory left for system and the Memory for the RIP by the amount shown in the brackets. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing Harlequin RIP > Configure RIP and clicking Options.

Alternatively, you can increase the Printer buffer by the amount shown in the brackets. This option is also within the Configure RIP Options dialog box.

```
Print buffer is too small to output this page
```

This message can appear during output. To prevent this error, use File > Configure RIP to display the Configure RIP dialog box. Set the number shown for Printer buffer to 32768 KB or more.

Note: You may also see a similar message while using Roam or Reduced Roam. The cure is the same.

```
Not enough system memory to output this page
```

This message can appear during output when the RIP is not supplying enough memory for the needs of the operating system on the computer. Set Minimum memory left for system to 10000 Kb in the Configure RIP Options dialog box. You may need to set a higher figure for large page sizes.

`Warning - this printer (`*printer name*`) may not be the expected model`

The model name returned by the printer is not one of the expected names for the output device. In this case, the quality of the output cannot be guaranteed.

`Unable to confirm printer status/model`

Either the connection method does not support bidirectional communications, or the initial attempt to determine the printer status and model name did not produce a reply within 15 seconds. The plugin will assume that the printer is in the correct state and is the correct model and it will send the job to the printer.

`Warning - printer status is unreliable`

This messages indicates that the status information being returned by the printer may be corrupted.

`Command error on printer or wrong ink type`

If this message occurs, you will need to restart the printer. You should also check that the ink type selected in your page setup is correct for the printer, before resubmitting the job.

`The selected ink type is incorrect for this printer`

This message can occur when the job or associated profiles are for a different ink type to that installed in the printer. You should ensure that the Calibration and Color profiles used in your page setup are for the ink type installed in your printer (Photographic Dye™ versus Archival™), or that you are using the correct UltraChrome Black (Photo Black versus Matte Black). You should also check that the Ink type, as chosen in the Configure Device dialog, is correct.

`%%[Error - Inking regime <name> is not a dictionary ]%%`

Each inking regime name should be associated with a value comprising a PostScript language dictionary.

`%%[Error - Inking regime <name> has not been defined ]%%`

This message appears when the inking regime information necessary for the particular ink, screening, inking regime and resolution combination is missing. Check that you are using a supported combination.

`Warning - ink type not recognized and will not be verified`

This message appears when the ink type information associated with a job has not been recognized. In such cases, the plugin cannot verify whether the printer is using the ink type required by the job.

`Printer communication failed (error details )`
`Unable to connect to printer (error details )`

The text and numbers in parentheses varies, depending on the reason why the RIP cannot connect to the printer. The final number is the error code generated by the operating system and can be used by GGS to determine the exact cause of the connection failure.

`Unknown output method selected`
`Cannot open selected output method (error details )`

```
Open error (error details)
Unable to open output (error details)
```

These messages may appear with a variety of text replacing *error details*. The text varies according to the method of output that you chose in the Epson Configuration dialog box and the exact problem. This text should help you diagnose the problem. If you have difficulty understanding any message, report the exact message to your support organization.

Note: The above message may appear if both the parallel port and the USB port are connected to the printer at the same time. In this case, the parallel port is disabled by the USB port. To enable the use of the parallel port, unplug the USB connection at the printer. The printer will immediately process any page buffers.

```
Warning - printer maintenance required (see printer panel)
Warning - printer ink cover open
Warning - printer bin 1 paper low
Warning - printer bin 2 paper low
Warning - <ink name> ink low
Warning - <ink name> ink out
Paper jam
Ink out
Paper size /type check error
Paper eject error
Print head too hot
Paper too thick
Printer nozzle check error
Wrong ink cartridge
Printer busy printing through another interface
Printer cover open
Printer paper lever released
Paper out
Wrong paper type or paper type select not complete
Printer initializing
Paper not cut
Printer paper set lever released
Printer ink cover open
Printer ink lever released
Printer is waiting for the ink to dry
Paper not straight
```

These messages are relayed directly from the printer and should also appear in the control panel of your printer. See the manual for your printer for details on how to respond to these error or status messages.

`Unknown error (N) reported by printer`

This message appears if the RIP is unable to recognize the error reported by the printer. A brief error message may appear in the Output Controller/Monitor dialog box, which may help you diagnose the problem. If necessary, report the error to your supplier for further details.

`Unable to create file - "full path name of output file"`

This message informs you that the RIP was unable to create an output file. The full path name of the file that it tried to create is specified within the quotation marks. Check that the file does not already exist and that the output folder is not read-only. You must also ensure that enough disk space is available.

`Unable to create file using path "full path name of output file" and template "file name template"`

This message informs you that the RIP was unable to create an output file due to a problem with the file path of the output file and the file name template. Check that all the specified directories in the full path name exist and are writable. If an earlier error message indicates that an invalid file name template was specified, you must enter a valid file name template in the Configure Device dialog box.

`Job output for "job name", sent on <date> <time>`

This message informs you that the RIP has finished sending the job to the printer. The job name is specified in quotation marks and is followed by the date and time at which the job was output.

`Job output for "job name", filename "full path name of output file", finished on <date> <time>`

This message informs you that the RIP has finished creating an output file. The job name and the full path name of the output file are specified in quotation marks, followed by the date and time at which the output file was closed.

`Job output for "job name" is aborting - Printer will print data that it has already received.`

This message can appear during printer output. It is not a separate error, only an indication of how the RIP and the printer are recovering from an error reported in an earlier message.

If the RIP aborted due to a problem with the parallel (LPT1) connection method, you may be prompted to retry or cancel the job. If this is the case, click Cancel to abort the job and then check that the printer is switched on and connected using the correct cable.

`Job output for "job name" is aborting`

This message can appear during the creation of an output file. It is not a separate error, only an indication of how the RIP is recovering from an error reported in an earlier message.

`Job output for "job name", aborted on <date> <time>`

This message informs you that the RIP has aborted output of the job to the printer. The reason for aborting the job should be reported in an earlier error message.

`Job output for "job name", filename "full path name of output file", aborted on <date> <time>`

This message informs you that the RIP has aborted the creation of an output file. The reason for aborting the job should be reported in an earlier error message.

`Job output for "job name" using path "full path name of output file" and template "file name template", aborted on <date> <time>`

This message informs you that the RIP has aborted the creation of an output file. The reason for aborting the job should be reported in an earlier error message.

`Printer maintenance tank full`

Each time you perform nozzle cleaning cycles after changing ink sets on some Epson Stylus Pro printers, the excess ink is captured in the printer maintenance tank. This error message appears when the printer maintenance tank is full. In this case the current job is aborted. You should either empty the printer maintenance tank or replace it.

`Printer maintenance tank removed`

This warning appears when the printer maintenance tank used for collecting excess ink on some Epson Stylus Pro printers has been removed. In this case the current job is suspended until the printer maintenance tank is replaced.

`Maintenance tank remaining nn%`

Stylus Pro printers have a maintenance tank for collecting waste ink. On some of these printers, when the tank is 50% full, a warning message is issued. If the tank becomes too full the printer may stop printing altogether.

Printer ejects paper before completing a page

This behavior is normal after the RIP has detected an error and displayed a warning message.

Otherwise, this behavior is rare but may occur when using a Microsoft Windows platform and a parallel port to drive the printer. It may be due to the mode set for the parallel port, the printer cable, or some interaction between these items. Reset the printer before retrying the same page. If the problem persists, check the mode set for the port in the com-

puter's BIOS: do not use EPP mode, particularly if you have a RIP security dongle attached to the same port. If the port is also in use for a dongle, move the printer to another parallel port. Finally, try a new bidirectional parallel printer cable.

Poor or erratic image quality

Try to localize the problem. If there are any error or warning messages look at their causes and try the associated cures. If there are no messages, start by printing any test pages available on the printer itself, perhaps from a test or diagnostic menu. If the problem is not present in any of these tests, there is likely to be some problem or inappropriate setting in the page setup.

No output

Make sure that you are sending output to a printer that is properly connected, powered up, supplied with ink and media, and ready to receive data. Confirm that the printer itself is working by printing a test page, alignment test, or similar printer-based function.

Output appears clipped

When printing using large paper sizes or high resolutions a VM Error may occur. Some jobs may suppress the VM Error and print using the default page size specified in the Page Layout dialog box, so that the output appears clipped. If this occurs we recommend that you increase the Band size in the Configure RIP options dialog box to 1024 KB.

PhotoInk color management fails to preserve 100% process black

When using a PhotoInk device type, the Preserve 100% process black color setup option may not be honored. To prevent black from being color managed in this instance, you should add a page feature to your page setup, which runs the following PostScript:

```
<</ReuseColorChains false>> setsystemparams
```

If necessary, refer to the OEM manual for details on creating and using page features.

9.1.2 File naming messages

This section details possible error messages that may appear in the RIP monitor window due to the use of incorrect file name templates (see Appendix 6, "Output File Naming"). Suggestions are given to prevent these errors.

All messages are prefixed with the text: `File name generation error`:

`Filename too long for target platform`

This message appears when the combined file name stem and extension are too long for the target platform. For example, the combined length of the file name stem and extension must not exceed 255 characters on a Windows platform or 31 characters on a Macintosh platform. To prevent this error, use truncated tags, as shown in the example for the `<dos>` tag in "Examples of tag usage" on page 45.

`File stem too long for target platform`

This message appears when the file name stem is too long for the target platform. To prevent this error, restrict the length of the stem by reducing the fixed text, or by using truncated tags. The example for the `<dos>` tag in "Examples of tag usage" on page 45 demonstrates truncation.

`Extension too long for target platform`

This message appears when the file name extension is too long for the target platform. For example, file names in UNIX are not considered to have a separate file name extension. If using the `<dot>` tag in conjunction with the `<unix>` tag this error would be generated. To prevent this error create a template such as `<unix><jobname>.epf` rather than using the `<dot>` tag.

`Full pathname too long for target platform`

This message appears when the full path name (combination of the file path and the file name) is too long for the target platform. For example, in Windows operating systems the full path name must not exceed 259 characters. To prevent this error, examine the number of characters in the Browse folders file path (for example, `C:\HQ55\RIP\FILES\`) and create a template in which the combined length of the file path and the file name do not exceed the limit for the platform.

`The folder name/path was not supplied`

This message appears when the file path is not specified in the Browse Folders text box within the Epson Configuration dialog box. To prevent this error, provide a valid file path.

`Unknown tag found in template`

This message appears when an unknown tag is found in the template. This is most likely due to a spelling error.

`Template contains an incomplete tag`

This message occurs when the opening and closing brackets of a tag are missing, that is < or > is missing.

`Filename Template resulted in a null filename`

This message occurs when the template only contain characters that are not allowed in file name on the relevant platform.

`Tag delimiter mismatch in template`

This message appears when a tag delimiter, either < or >, is missing from a tag. Check that all the tags have both delimiters.

`An extension is required but not found`

This message appears when a file extension is expected but is not specified in the template. For example, if using the <dot> tag, a file extension must be given.

`File requested is not writeable`

This message appears when trying to write to a file that already exists and that has read-only access. If you wish to overwrite the file, then you must change the file permissions to provide write access.

`Unique name requested but all names are in use`

This message appears when no further unique numbers are available. For example, if using the template `stem<1unique><dot>epf`, this error would occur once the file names `stem1.epf` through `stem9.epf` had been generated, because no further unique numbers are available.

9.1.3 Post processing messages

This section details possible messages that may appear during post processing (see Appendix 7, “Post processing”).

`Running post processing command "`*`command`*`" in folder "`*`folder name`*`"`

This is a progress message, confirming the command that is being run.

`Post processing command failed - Cannot change directory to "`*`directory path`*`"`

This error message appears when there is a problem changing to the specified directory that prevents the completion of the post processing. Check that the directory exists and that you have permission to access the directory.

`Post processing command failed - "`*`status value`*`"`

This error message appears when the post processing has been unsuccessful. The `"`*`status value`*`"` is the error code generated by the command or shell you are using and can be used by your system administrator to determine the exact cause of the post processing failure.

9.1.4 Miscellaneous messages

The following is a general list of error messages or warnings that may appear in the RIP monitor window:

`%%[ Error: rangecheck; OffendingCommand: get ]%%`

This message may appear if you try to use a 1-bit device type without first enabling the HEDS1 screening plugin.

To prevent this error, ensure you enable the HEDS1 plugin, as described in "Enabling the printer plugin" on page 6, before using a 1-bit device type.

`%%[ Error: VMerror; OffendingCommand: pagedevice ]%%`

When printing using large paper sizes or high resolutions a VM Error may occur. Some jobs may suppress the VM Error and print using the default page size specified in the Page Layout dialog box, so that the output appears clipped. If this occurs we recommend that you increase the Band size in the Configure RIP options dialog box to 1024 KB.

`%%[Error: undefinedfilename; Offending Command: run]%%`

This error message appears if you have created a device type using a name similar to the name of the device type on which it is based. If you use the same text to name the new device as that used to label the device type, you must match the use of lowercase and uppercase characters in the device type label. To prevent this error, open the Device Manager, select the device and click Edit. In the Device Manager Edit dialog box, change the name of the device to something completely different.

`%%[Warning:Error running file <file name>]%%`

This warning appears if you there is a PostScript error in the named file. In such cases, the job will be processed as if the file does not exist.

`%%[Error occurred in profile hook <file name>]%%`

This warning appears if there is a PostScript error in the named profile hook file. The job is aborted when such an error occurs.

```
*****WARNING: Insufficient working set may result in paging and performance
may be affected
*****Try logging on as a Power User or reducing the memory allocated to the
RIP
```

This message may occur when using the RIP running on Windows 2000. It is due to the way this operating system deals with memory requests.

You can ignore the warning message because performance is not affected in this case. If you wish to remove this error message, you can reduce the amount of memory available to the RIP. This may however affect the performance of the RIP, depending on the total amount of memory that you have available.

`Wrong data format for device(Depth` *N* `vs` *N*`, Channels` *N* `vs` *N*`)`

This message can appear if you attempt to output a page buffer generated for a 2-bit device type to a biplane device type, or vice versa. The RIP displays this error and disables output in the Output Controller/Monitor dialog box.

If you wish to output the page buffer, select it from the Active Queue list and click Info to change the Output device to either a 2-bit or biplane device type, depending on the device that the page buffer was originally created for. Deselect the Disable output check box to enable output.

Alternatively, you can delete the page buffer by selecting it and clicking Remove.

This error also occurs when you attempt to send pre-separated jobs to a separating workflow. In this case, the error message will show that the channel has been mismatched, for example:

`Channels 1 vs 4`, or

`Channels 1 vs 6`, or

`Channels 1 vs 7`, or

`Channels 1 vs 8`

To resolve this, you should either choose to recombine pre-separated jobs, or reject them. In the latter case, a second page setup can be configured using a monochrome colorspace for use with pre-separated jobs.

`%% [ Error: ioerror; Offending Command: setscreen ] %%`

This message can appear if you try to use HDS screens listed in the Edit Style dialog box before enabling the use of HDS or HDS light. In this case, you must enable HDS or HDS light in the Configure RIP Extras dialog box and then re-submit your job.

9.2 Problems with passwords

If you have problems enabling a device or option you should confirm with your supplier the password or password file. They may provide you with a new password or password file. If this is the case, you may need to provide the serial number of your RIP. The RIP displays this number in the RIP monitor window when starting up, in the form:

`Serial number:` *`1234-56`*

You must also tell your supplier the *platform* for which you require the password or password file. The platform is the combination of operating system and processor type. For example, you might specify Windows NT, and Intel processor (CPU).

Once you have a valid password or password file, follow the relevant steps:

Password file	Copy the password file into the `Passwords` folder, which is a subfolder of the `SW` folder. See the *RIPMate User Guide* for further details.
Password	Use the File > Configure RIP menu option to display the Configure RIP dialog box. Click the Extras button in the Configure RIP dialog box to display the Extras dialog box. Select the entry for the device or option that you wish to add, and click Add to display the Enable Feature dialog box. Enter the password given to you by your supplier, and click OK.